What is claimed is:

1. An air quality management apparatus, for use in an electrostatographic printer for making color images on receiver members, which printer has a paper conditioning station associated therewith and which printer includes a first interior volume and a second interior volume, which first interior volume includes a fusing station for fusing said color images on said receiver members, which second interior volume includes a number of tandemly arranged electrostatographic image-forming modules, said second interior volume also including charging devices, image writers, toning stations and cleaning stations operating in conjunction with said electrostatographic image-forming modules, said second interior volume differentiated from said first interior volume by at least one separating member, said air quality management apparatus comprising:

an open-loop portion for managing of an air quality of air flowing through and included in said first interior volume, which first interior volume is provided with at least one inlet port and at least one outlet port, said first interior volume including a plurality of throughput pathways connecting said at least one inlet port with said at least one outlet port, said open-loop portion including at least one air moving device for drawing ambient air from outside of said printer through said at least one inlet port to said first interior volume and moving said air included in said first interior volume towards and through said at least one outlet port for expulsion as expelled air, said at least one air moving device providing a specified total airflow rate between said at least one inlet port and said at least one outlet port;

a recirculation portion for managing of an air quality of air included in and circulating within said second interior volume, said recirculation portion including an air-conditioning device having an entrance and at least one exit, each of said at least one exit providing a respective post-exit airflow included in at least one post-exit airflow, which air-conditioning device provides conditioning of said air included in said second interior volume, said recirculation portion of said air quality management apparatus further including at least one air recirculation

device, said at least one air recirculation device for moving said air included in said second interior volume at a specified total rate of recirculation through said air-conditioning device, such that air-conditioned air leaving said at least one exit of said air-conditioning device is urged by said at least one air recirculation device through a plurality of recirculation pathways included in said second interior volume, said plurality of pathways included in said second interior volume being conjoined into a common duct for carrying air for recycling to a filtering unit, said filtering unit located within said common duct, said filtering unit for removing contaminants from said air for recycling in said air-conditioning device;

wherein, excepting said at least one inlet port to said first interior volume and said at least one outlet port from said first interior volume, said first interior volume and said second interior volume are substantially sealed from said ambient air outside of said printer;

wherein said expelled air carries out, from said first interior volume, excess heat and aerial contamination generated within said first interior volume;

wherein said recirculation portion of said air quality management apparatus includes at least one mechanism for removing, during said recycling, aerial contaminants from said air included within said second interior volume;

wherein said conditioning and recycling by said air-conditioning device includes a temperature controller for temperature control, within a predetermined temperature range, of said at least one post-exit airflow from said air-conditioning device; and

wherein said conditioning and recycling by said air-conditioning device includes a relative humidity controller for relative humidity control, within a predetermined relative humidity range, of said at least one post-exit airflow from said air-conditioning device.

2. The air quality management apparatus according to Claim 1, wherein said at least one separating member defines at least one leakage pathway between said first interior volume and said second interior volume, said at least one leakage pathway associated with a leakage flow rate of air from said first interior volume to said second interior volume and a substantially equal

leakage flow rate of air from said second interior volume to said first interior volume, which leakage flow rate from said second interior volume to said first interior volume is a predetermined fraction of said specified total rate of recirculation within said recirculation portion of said air quality management apparatus.

3. The air quality management apparatus according to Claim 2, wherein said predetermined fraction is less than about 0.33.

4. The air quality management apparatus according to Claim 3, wherein said predetermined fraction includes substantially zero.

5. The air quality management apparatus according to Claim 2, wherein said at least one separating member comprises a transport web for transporting said receiver members past said number of tandemly arranged electrostatographic image-forming modules.

6. The air quality management apparatus according to Claim 5, wherein said transport web has a form of a tube encircling a third interior volume, said third interior volume communicating with said at least one leakage pathway, said communicating thereby resulting in a formation within said third interior volume of a mixed air, said mixed air having characteristics intermediate between characteristics of said air included in said first interior volume and characteristics of said air included in said second interior volume, said characteristics including temperature and relative humidity.

7. The air quality management apparatus according to Claim 1, wherein said aerial contamination carried out from said first interior volume by said expelled air includes at least one of a group of contaminants, said group of contaminants comprising: amines, acrolein, ozone, fuser oil vapor, water vapor, and particulates.

8. The air quality management apparatus according to Claim 1, wherein a device is provided for purpose of directing, at a specified input rate, a

refreshing flow of filtered air from outside said printer into said second interior volume through at least one input pipe, with a compensating airflow rate of approximately equal magnitude to said specified input rate leaving said second interior volume to at least one location outside said second interior volume.

9. The air quality management apparatus according to Claim 8, wherein said specified input rate divided by said total recirculation rate is less than about 0.2.

10. The air quality management apparatus according to Claim 9, wherein said specified input rate divided by said total recirculation rate is less than about 0.05.

11. The air quality management apparatus according to Claim 1, wherein in associative proximity to each said at least one inlet port is provided an amine filter, which amine filter is for a purpose of removing amine contaminants from said ambient air entering said first interior volume through said at least one inlet port.

12. The air quality management apparatus according to Claim 1, wherein in associative proximity to each said at least one inlet port is provided a particulate filter for a purpose of removing particulate contaminants from said ambient air entering said first interior volume through said at least one inlet port.

13. The air quality management apparatus according to Claim 1, wherein said recirculation portion includes at least one device for removing ozone from said air included in said second interior volume.

14. The air quality management apparatus according to Claim 1, wherein said recirculation portion includes at least one coarse particulate filter for removing coarse particles from said air included in said second interior volume, said at least one coarse particulate filter included in said filtering unit.

15. The air quality management apparatus according to Claim 1, wherein said recirculation portion includes at least one fine particulate filter for removing fine particles from said air included in said second interior volume, said at least one fine particulate filter included in said filtering unit.

16. The air quality management apparatus according to Claim 1, wherein said expelled air is led through a duct connecting said at least one outlet port to an external mechanism for air disposal.

17. The air quality management apparatus according to Claim 1, wherein said number of tandemly arranged electrostatographic image-forming modules is five and said specified total airflow rate through said first interior volume is approximately 1180 cubic feet per minute ±200 cubic feet per minute.

18. The air quality management apparatus according to Claim 1, wherein said number of tandemly arranged electrostatographic image-forming modules is five and said specified total rate of recirculation of said air included in said second interior volume is approximately 1180 cubic feet per minute, which specified total rate of recirculation is included in a range between approximately 1080 cubic feet per minute and 1380 cubic feet per minute.

19. The air quality management apparatus according to Claim 1, wherein air recirculated to said air-conditioning device for said conditioning has had coarse and fine particulates removed therefrom by said filtering unit, which air is divided into a first stream and a second stream, said first stream cooled by flowing past cooling fins for cooling said first stream, said cooling fins in thermal contact with an evaporator coil, said evaporator coil in the form of a thermally conductive tube containing a refrigerant being passed in the form of a cold gas/liquid mixture through the interior of said tube, said cooling fins being thermally conductive and thereby cooled by said evaporator coil in thermal contact with said cold gas/liquid mixture, whereinafter having moved past said evaporator coil, said first stream is mixed with said second stream to form a recombined stream, which recombined stream is flowed in a primary duct through

an internal filtering unit, which internal filtering unit includes in order of flow-through an ozone filter and an amine filter, which combined stream after being filtered of ozone and amines passes by thermally conductive heating fins for heating said recombined stream, said thermally conductive heating fins being in thermal contact with a reheat coil, said reheat coil for intermittent use for intermittently heating said recombined stream, wherein during said intermittent use a flow of said refrigerant in the form of a hot compressed gas is passed through said reheat coil, said reheat coil being a thermally conductive tube containing said refrigerant, said intermittent use for intermittently heating said recombined stream controlled by said temperature controller.

20. The air quality management apparatus according to Claim 19, wherein in said air-conditioning device said recombined stream, after passing said reheat coil, is flowed through a humidification unit for intermittently humidifying said recombined stream and from thence through a main recirculation device, whereinafter said recombined stream is sensed by a temperature sensor for sensing a temperature of said recombined stream and by a relative humidity sensor for sensing a relative humidity of said recombined stream, said temperature sensor connected to said temperature controller and said relative humidity sensor connected to said relative humidity controller, said recombined stream thereafter divided as necessary for flowing through said at least one exit from said air-conditioning device.

21. The air quality management apparatus according to Claim 20, wherein said temperature of said recombined stream sensed by said temperature sensor is kept within a predetermined temperature range having a lowest temperature and a highest temperature, said intermittent use for intermittently heating said recombined stream comprising an activation by a turn-on signal from said temperature controller when said temperature of said recombined stream as sensed by said temperature sensor is lower than a target temperature, said intermittent use for intermittently heating said recombined stream further comprising a deactivation by a turn-off signal from said

temperature controller when said temperature of said recombined stream being sensed by said temperature sensor is higher than said target temperature, which target temperature is approximately midway between said lowest temperature and said highest temperature.

22. The air quality management apparatus according to Claim 21, wherein said turn-on signal activates a solenoid valve, which solenoid valve thereby opens a gate for flowing said refrigerant in the form of said hot compressed gas through said reheat coil, and wherein said turn-off signal activates said solenoid valve to close said gate, thereby stopping said flowing of said refrigerant through said reheat coil.

23. The air quality management apparatus according to Claim 22, wherein said lowest temperature is approximately 20.0°C and said highest temperature is approximately 22.2°C.

24. The air quality management apparatus according to Claim 20, wherein said relative humidity of said recombined stream sensed by said relative humidity sensor is maintained within a predetermined relative humidity range by an intermittent use of said humidification unit, said predetermined relative humidity range having a lowest relative humidity and a highest relative humidity, said intermittent use of said humidification unit comprising an activation by a turn-on signal from said relative humidity controller when said relative humidity of said recombined stream as sensed by said relative humidity sensor is lower than a target relative humidity, said intermittent use of said humidification unit further comprising a deactivation by a turn-off signal from said relative humidity controller when said relative humidity of said recombined stream being sensed by said relative humidity sensor is higher than said target relative humidity, which target relative humidity is approximately midway between said lowest relative humidity and said highest relative humidity.

25. The air quality management apparatus according to Claim 24, wherein said lowest relative humidity is approximately 30 percent and said highest relative humidity is approximately 40 percent.

26. The air quality management apparatus according to Claim 20, said humidification unit comprising a drip mechanism and a wettable pad for use with said drip mechanism, wherein said activation causes said drip mechanism to drip water on to said wettable pad so as to maintain thereby a wetness of said wettable pad, said recombined stream being humidified during said activation by flowing past and contacting said wetness, said deactivation preventing said water from being dripped on to said wettable pad and said wetness not maintained.

27. The air quality management apparatus according to Claim 26, said humidification unit further comprising a collection mechanism for collecting excess water dripping from said wettable pad and a pumping mechanism for recycling said excess water for return to said drip mechanism.

28. The air quality management apparatus according to Claim 19, said recombined stream flowed from a continuation of said primary duct into at least one secondary duct, each said at least one secondary duct carrying a respective subflow of said recombined stream, said respective subflow flowing through a respective humidification unit for intermittent use for intermittently humidifying said respective subflow, said respective subflow sensed after passing said respective humidification unit by a respective temperature sensor and by a respective relative humidity sensor, said respective temperature sensor connected to said temperature controller and said respective relative humidity sensor connected to said relative humidity controller, said respective subflow moving toward a respective exit included in said at least one exit from said air-conditioning device, from which respective exit is flowed a respective post-exit subflow, said respective post-exit subflow providing a respective individually air-conditioned air,

wherein said temperature of said respective post-exit subflow is continuously sensed as a respective temperature signal by said respective temperature sensor, each said respective temperature signal being utilized at any instant in said temperature controller by an algorithm to calculate a control temperature, said control temperature calculated according to said algorithm being dependent on each said respective temperature signal, said control temperature maintained within a predetermined temperature range bounded by a lowest temperature and a highest temperature, said intermittent use for intermittently heating said recombined stream comprising an activation by a turn-on signal from said temperature controller when said control temperature is lower than a target control temperature, said intermittent use for intermittently heating said recombined stream further comprising a deactivation by a turn-off signal from said temperature controller when said control temperature is higher than said target control temperature, which target temperature is approximately midway between said lowest temperature and said highest temperature; and

wherein said relative humidity of said respective post-exit subflow is continuously sensed as a respective relative humidity signal by said respective relative humidity sensor, said intermittent use for intermittently humidifying said respective subflow according to signals sent to said respective humidification unit from said humidity controller, said relative humidity controller being preset so as to maintain for each respective post-exit subflow a respective relative humidity, which respective relative humidity lies within a respective predetermined relative humidity range for said respective post-exit subflow, said respective predetermined relative humidity range bounded by a respective lowest relative humidity and a respective highest relative humidity, wherein in response to a respective turn-on signal from said humidity controller, a respective activation of said respective humidification unit by said relative humidity controller starts a respective active humidification of said respective subflow when said respective relative humidity is lower than a respective target relative humidity, and in response to a respective turn-off signal from said humidity controller, a respective deactivation of said respective humidification unit by said relative humidity

controller stops said active humidification when said respective relative humidity is higher than said respective target relative humidity, said respective target relative humidity being approximately midway between said respective lowest relative humidity and said respective highest relative humidity.

29. The air quality management apparatus according to Claim 19,

wherein said recombined stream is flowed past an auxiliary post-reheat temperature sensor and then through a continuation of said primary duct into at least one secondary duct, each said at least one secondary duct carrying a respective subflow of said recombined stream, said respective subflow flowing past a respective temperature adjusting mechanism and through a respective humidification unit, said respective temperature adjusting mechanism and respective humidification unit arranged in a given order, said respective temperature adjusting mechanism for intermittent usage for adjusting a temperature of said respective subflow, said respective humidification unit for intermittent use for intermittently humidifying said respective subflow, said respective subflow sensed, after passing said respective temperature adjusting mechanism and said respective humidification unit, by a respective temperature sensor and by a respective relative humidity sensor, said respective temperature sensor connected to said temperature controller and said respective relative humidity sensor connected to said relative humidity controller, said respective subflow moving toward a respective exit included in said at least one exit from said air-conditioning device, from which respective exit is flowed a respective post-exit subflow, which respective post-exit subflow has a respective individual temperature and a respective individual relative humidity;

wherein said relative humidity of said respective post-exit subflow is continuously sensed as a respective relative humidity signal by said respective relative humidity sensor, said intermittent use for intermittently humidifying said respective subflow according to signals sent to said respective humidification unit from said humidity controller, said relative humidity controller being preset so as to maintain for each respective post-exit subflow a respective relative humidity,

which respective relative humidity lies within a respective predetermined relative humidity range for said respective post-exit subflow, said respective predetermined relative humidity range bounded by a respective lowest relative humidity and a respective highest relative humidity, wherein in response to a respective turn-on signal from said humidity controller, a respective activation of said respective humidification unit by said relative humidity controller starts a respective active humidification of said respective subflow when said respective relative humidity is lower than a respective target relative humidity, and in response to a respective turn-off signal from said humidity controller, a respective deactivation of said respective humidification unit by said relative humidity controller stops said active humidification when said respective relative humidity is higher than said respective target relative humidity, said respective target relative humidity being approximately midway between said respective lowest relative humidity and said respective highest relative humidity; and

wherein said temperature of said recombined stream sensed by said auxiliary post-reheat temperature sensor is kept within a predetermined post-reheat temperature range bounded by a least post-reheat temperature and an uppermost post-reheat temperature, said intermittent use for intermittently heating said recombined stream activated by a turn-on signal from said temperature controller when said temperature of said recombined stream sensed by said auxiliary post-reheat temperature sensor is lower than a target post-reheat temperature, said intermittent use for intermittently heating said recombined stream deactivated by a turn-off signal from said temperature controller when said temperature of said recombined stream sensed by said auxiliary post-reheat temperature sensor is higher than said target post-reheat temperature, which target post-reheat temperature is approximately midway between said least post-reheat temperature and said uppermost post-reheat temperature, and, wherein said intermittent usage for adjusting a temperature of said respective subflow is controlled according to respective signals sent to each said respective temperature adjusting mechanism from said temperature controller, said temperature controller being preset so as to maintain for each respective post-exit subflow a respective post-exit subflow

temperature, which respective post-exit subflow temperature lies within a respective predetermined temperature range for said respective post-exit airflow, said respective predetermined temperature range for said respective post-exit airflow bounded by a respective lowest temperature and a respective highest temperature, wherein in response to a respective activation signal from said temperature controller, a respective activation of said respective temperature adjusting mechanism by said temperature controller produces a respective alteration of said respective post-exit subflow temperature, and in response to a respective deactivation signal from said temperature controller, a respective deactivation of said respective temperature adjusting mechanism by said relative temperature controller causes said respective alteration of said respective subflow temperature to cease, said respective activation of said respective temperature adjusting mechanism by said respective activation signal taking place when said respective temperature sensor senses a respective post-exit subflow temperature that differs from a respective target post-exit subflow temperature for said respective post-exit subflow, said respective activation ceased by said deactivation signal when said respective post-exit subflow temperature is approximately equal to said respective target post-exit subflow temperature, which respective target post-exit subflow temperature is approximately midway between said respective lowest temperature and said respective highest temperature.

30. The air quality management apparatus according to Claim 29, wherein said turn-on signal activates a solenoid valve, which solenoid valve thereby opens a gate for flowing said refrigerant in the form of said hot compressed gas through said reheat coil, and wherein said turn-off signal activates said solenoid valve to close said gate, thereby stopping said flowing of said refrigerant through said reheat coil.

31. The air quality management apparatus according to Claim 19, said first stream having an airflow rate V_1 and said second stream having an airflow rate V_2, wherein a ratio equal to V_1 divided by V_2 is a fixed ratio during operation of said air quality management apparatus.

32. The air quality management apparatus according to Claim 31, wherein said fixed ratio is approximately 0.77 ± 0.20.

33. The air quality management apparatus according to Claim 19, said first stream having an airflow rate V_1 and said second stream having an airflow rate V_2, wherein a ratio equal to V_1 divided by V_2 is a controllably adjustable ratio during operation of said air quality management apparatus.

34. The air quality management apparatus according to Claim 1, wherein certain ones of said at least one post-exit airflow are provided with respective pipes, each of which respective pipes for delivering from said air-conditioning device a respective individually air-conditioned post-exit airflow to a respective toning station, thereby individually controlling a respective local temperature and a respective local relative humidity in the vicinity of said respective toning station.

35. The air quality management apparatus according to Claim 1, wherein said at least one post-exit airflow provides module-ventilating air-conditioned air transported via ductage to a module-supplying input manifold provided with output pipes, through which said output pipes said module-ventilating air-conditioned air is delivered in approximately equal module-ventilating flows for respectively bathing each of said number of tandemly arranged electrostatographic image-forming modules, and wherein a respective exhaust pipe leads a respective module-exhausting outflow away from each of said image-forming modules to a module-exhausting output manifold, and from said module-exhausting output manifold for recirculation to said air-conditioning device.

36. The air quality management apparatus according to Claim 1, wherein said at least one post-exit airflow provides subsystem-ventilating air-conditioned air transported via ductage to a subsystem-supplying input manifold, from which subsystem-supplying input manifold said subsystem-ventilating air-conditioned air is respectively piped in approximately equal subsystem flows to

each of said number of tandemly arranged electrostatographic image-forming modules, a respective subsystem flow divided into a respective charger-related portion of flow and a respective image-writer-related portion of flow, said respective charger-related portion of flow for ventilating at least one charging device in a respective image-forming module, and said respective image-writer-related portion of flow for cooling a respective image writer located in said respective image-forming module.

37. The air quality management apparatus according to Claim 1, wherein in a respective module a toning-station-related airflow is moved by said at least one air recirculation device into a developer-dust-removal duct included in said respective module, said developer-dust-removal duct being in associative proximity to a respective toning station included in said toning stations, said toning station generating a developer dust, which developer dust is entrained within said toning-station-related airflow for movement for movement via ducted passage to a particulate-related output manifold, and from said particulate-related output manifold for further movement by said at least one air recirculation device through an auxiliary developer dust filter, and from thence for recirculation to said air-conditioning device, said at least one air recirculation device including an auxiliary suction device for augmenting said further movement.

38. The air quality management apparatus according to Claim 1, wherein in a respective module a cleaning-station-related airflow is moved by said at least one air recirculation device into a cleaning-station-debris-removal duct included in said respective module, said cleaning-station-debris-removal duct being in associative proximity to a cleaning station included in said cleaning stations, said cleaning station generating a cleaning station debris, which cleaning station debris is entrained within said cleaning-station-related airflow for movement via ducted passage to a particulate-related output manifold, and from said particulate-related output manifold for further movement by said at least one air recirculation device through an auxiliary cleaning station debris filter, and from

thence for recirculation to said air-conditioning device, said at least one air recirculation device including an auxiliary suction device for augmenting said further movement.

39. The air quality management apparatus according to Claim 1, wherein associated with a respective module included in said number of tandemly arranged electrostatographic image-forming modules is an adjoining respective auxiliary chamber, said auxiliary chamber included in a plurality of auxiliary chambers in one-to-one relationship with said modules, said respective auxiliary chamber containing heat generating devices for operating said respective module, and which heat generating devices include: drive motors for rotating rotatable members included in said respective modules, power supplies, and circuit boards.

40. The air quality management apparatus according to Claim 39, wherein said at least one post-exit airflow provides auxiliary-chamber-ventilating air transported via ductage to an input manifold for ventilation of said plurality of auxiliary chambers, said input manifold for ventilation for delivering approximately equal auxiliary-chamber-input airflows to each auxiliary chamber of said plurality of auxiliary chambers, said input manifold for ventilation providing a piping connection to each said auxiliary chamber for transporting said auxiliary-chamber-ventilating air to said plurality of auxiliary chambers, and wherein an exhaust pipe from each said auxiliary chamber carries an auxiliary-chamber-exhausting airflow away from each said auxiliary chamber to an auxiliary-chamber-exhausting output manifold, and thence from said auxiliary-chamber-exhausting output manifold to said filtering unit.

41. The air quality management apparatus according to Claim 1, wherein said at least one air moving device included in said open-loop portion is chosen from a group including blowers, fans, and air suction mechanisms.

42. The air quality management apparatus according to Claim 1, wherein said at least one air recirculation device included in said recirculation

portion is chosen from a group including blowers, fans, and air suction mechanisms.

43. The air quality management apparatus according to Claim 1, wherein said specified total airflow rate of air managed in said open-loop portion and said specified total rate of recirculation of air managed in said recirculation portion differ by less than 5 percent from one another.

44. The air quality management apparatus according to Claim 1, wherein both the specified total airflow rate and the specified total rate of recirculation are reduced to stand-by values wherein said electrostatographic printer is in stand-by mode, so as to maintain said temperature control within said predetermined temperature range and to maintain said relative humidity control within said predetermined relative humidity range during stand-by mode.

45. The air quality management apparatus according to Claim 1, wherein at least one airflow rate of air included in said first interior volume and flowing through said plurality of throughput pathways is individually adjustable during operation of said electrostatographic printer.

46. The air quality management apparatus according to Claim 1, wherein at least one airflow rate of said air-conditioned air flowing through said plurality of recirculation pathways is individually adjustable during operation of said electrostatographic printer.

47. The air quality management apparatus according to Claim 1, wherein a percentage of one of said at least one post-exit airflow is divided into individual flows, each of said individual flows respectively flowing for delivery directly to certain ones of said charging devices for purpose of ventilating said certain ones of said charging devices, said individual flows subsequently flowing back for recirculation by said air-conditioning device.

48. The air quality management apparatus according to Claim 1, wherein said filtering unit includes a plurality of filters, said filters arranged in a

predetermined order for a sequential passage through said filters of said air for recycling, said plurality of filters including at least one of the following filters listed in said predetermined order: a coarse particulate filter, a fine particulate filter, an ozone filter, and an amine filter.

49. The air quality management apparatus according to Claim 1, said paper conditioning station included in said first interior volume, and wherein said plurality of pathways connecting said at least one inlet port with said at least one outlet port in said open-loop portion includes the following pathways:

a pathway through a post fuser cooler, associated with said fusing station, for cooling said color images on said receiver members after fusing said color images on said receiver members in said fusing station, said pathway through a post fuser cooler including a cooling auxiliary fan;

a pathway through a paper cooler, said pathway through a paper cooler including a pre-cooling auxiliary fan and a post-cooling auxiliary fan, said paper cooler included in said paper conditioning station included in said first interior volume;

a pathway through a paper heater, said paper heater included in said paper conditioning station included in said first interior volume; and

one or more pathways through frame portions of said printer, said frame portions included in said first interior volume.

50. The air quality management apparatus according to Claim 49, wherein said managing of an air quality of air flowing through and included in said first interior volume includes removal of heat, generated within said first interior volume, by said air flowing through and included in said first interior volume.

51. The air quality management apparatus according to Claim 50, wherein said heat generated within said first interior volume is generated according to the following heat generation rates: at least about 1000 watts from said post fuser cooler, at least about 300 watts from said cooling auxiliary fan, at

least about 1000 watts from said paper cooler, at least about 300 watts from each of said pre-cooling auxiliary fan and said post-cooling auxiliary fan, at least about 2500 watts from said paper heater, and at least about 4000 watts from said one or more pathways through frame portions included in said first interior volume.

52. The air quality management apparatus according to Claim 1, wherein said managing of an air quality of air included in and circulating within said second interior volume includes removing excess heat generated within said second interior volume, said removing said excess heat by said air-conditioning device.

53. The air quality management apparatus according to Claim 52, wherein said heat generated within said second interior volume is generated according to the following heat generation rates: at least about 500 watts from said image writers, at least about 500 watts said modules in addition to said image writers, at least about 2250 watts from said at least one air recirculation device, and at least about 1500 watts from heat-generating devices housed in said auxiliary chambers included in said second interior volume, said auxiliary chambers associated with and not included in said modules, said heat-generating devices for operating said recirculation portion, said heat-generating devices including mechanical devices, power supplies, motors, electrical equipment, and electrical circuit boards.

54. The air quality management apparatus according to Claim 52, wherein said respective inlet port filter and said entry filter are high throughput filters for filtering airborne particles from said ambient air entering respectively said first interior volume and said fourth interior volume, said high throughput filters similar to commercial residential furnace filters.

55. The air quality management apparatus according to Claim 19, said printer further including a fourth interior volume, said air-conditioning device encompassing said fourth interior volume, said fourth interior volume distinct from each of said first interior volume and said second interior volume,

said air conditioning device including a closed-loop circuit for flowing a refrigerant through successive devices included in said closed-loop circuit, said refrigerant being circulated as a refrigerant flow by a refrigerant circulation mechanism, said successive devices through which said refrigerant being circulated comprising:

said evaporator coil, included in said second interior volume, in which said evaporator coil said refrigerant is evaporated from a liquid state to form a refrigerant gas;

a pressure regulator, located downstream from said evaporator coil, said pressure regulator included in said second interior volume;

a compressor, located downstream from said evaporator coil, said compressor for compressing said refrigerant gas to a compressed refrigerant gas, said compressor included in said second interior volume;

a gate, located downstream from said compressor, said gate for dividing said refrigerant flow into a main refrigerant flow and an intermittent auxiliary refrigerant flow, said gate activated by a solenoid valve for intermittently flowing said intermittent auxiliary refrigerant flow through said reheat coil, said gate included in said second interior volume;

a condenser coil, said condenser coil included in said fourth interior volume, said condenser coil located downstream from said gate and downstream from said reheat coil, to which said condenser coil said main refrigerant flow and said intermittent auxiliary refrigerant flow are together flowed, said condenser coil for cooling and thereby at least partially condensing said compressed refrigerant gas to said liquid state;

an expansion valve located downstream from said condenser coil, said expansion valve included in said second interior volume; and

wherein ambient air is drawn as an ambient input airflow from outside said printer through an inlet into said fourth interior volume by an air moving device, said inlet provided with an entry filter, said ambient input airflow directed through an air compressor for compressing said ambient input airflow, said air compressor included in said fourth interior volume, said ambient input airflow subsequently

flowed past thermally conductive cooling fins, said thermally conductive cooling fins in thermal contact with said condenser coil, such that heat absorbed by said ambient input airflow from said refrigerant within said condenser coil causes said compressed airflow to become a heated airflow, which heated airflow after flowing past said condenser coil is passed through an exit duct leading from said fourth interior volume to a location for disposal outside of said printer.

56. The air quality management apparatus according to Claim 19, said printer further including

a fourth interior volume, said air-conditioning device encompassing said fourth interior volume, said fourth interior volume distinct from each of said first interior volume and said second interior volume, said air conditioning device including a closed-loop circuit for flowing a refrigerant through successive devices included in said closed-loop circuit, said refrigerant being circulated as a refrigerant flow by a refrigerant circulation mechanism, said successive devices through which said refrigerant being circulated comprising:

an hevaporator coil, said evaporator coil included in said second interior volume, in which said evaporator coil said refrigerant is evaporated from a liquid state to form a refrigerant gas;

a pressure regulator, located downstream from said evaporator coil, said pressure regulator included in said second interior volume;

a compressor, located downstream from said evaporator coil, said compressor for compressing said refrigerant gas to a compressed refrigerant gas, said compressor included in said second interior volume;

a gate, located downstream from said compressor, said gate for dividing said refrigerant flow into a main refrigerant flow and a controlled auxiliary refrigerant flow, said gate activated by a 3-way continuously variable valve for controllably flowing said controlled auxiliary refrigerant flow through said reheat coil, said gate included in said second interior volume;

a condenser coil, said condenser coil included in said fourth interior volume, said condenser coil located downstream from said gate and downstream from said reheat coil, to which said condenser coil said main refrigerant flow and

said intermittent auxiliary refrigerant flow are together flowed, said condenser coil for cooling and thereby at least partially condensing said compressed refrigerant gas to said liquid state;

an expansion valve located downstream from said condenser coil, said expansion valve included in said second interior volume; and

wherein ambient air is drawn as an ambient input airflow from outside said printer through an inlet into said fourth interior volume by an air moving device, said inlet provided with an entry filter, said ambient input airflow directed through an air compressor for compressing said ambient input airflow, said air compressor included in said fourth interior volume, said ambient input airflow subsequently flowed past thermally conductive cooling fins, said thermally conductive cooling fins in thermal contact with said condenser coil, such that heat absorbed by said ambient input airflow from said refrigerant within said condenser coil causes said compressed airflow to become a heated airflow, which heated airflow after flowing past said condenser coil is passed through an exit duct leading from said fourth interior volume to a location for disposal outside of said printer.

57. The air quality management apparatus according to Claim 55, said air moving device being a blower for blowing said mixture through said exit duct, wherein said blower provides a first suction for drawing said ambient air into said fourth interior volume, and wherein said blower applies a second suction to said one or more outlet ports from said first interior volume, said second suction for drawing ambient air from outside of said printer through said at least one inlet port into said first interior volume, each said at least one inlet port provided with a respective inlet port filter.

58. The air quality management apparatus according to Claim 55 wherein said refrigerant circulation mechanism is operated for sporadically flowing said refrigerant through said evaporator coil at a duty cycle of less than about 10%, and wherein said refrigerant, having passed through said evaporator coil, is diverted by a valve into a shunt pipe and flowed directly to said condenser coil, said shunt pipe bypassing said pressure regulator as well as said compressor,

said sporadically flowing said refrigerant made to occur when operation of a humidification system for humidifying said air-conditioned air experiences an operational failure, said humidification system for operation in conjunction with said air-conditioning device.

59. The air quality management apparatus according to Claim 58, wherein said duty cycle is less than about 5%.

60. The air quality management apparatus according to Claim 54, wherein said ambient inlet air flow into said fourth interior volume is about at least 1250 cubic feet per minute.

61. The air quality management apparatus according to Claim 54, wherein said refrigerant comprises at least one fluorohydrocarbon.

62. The air quality management apparatus according to Claim 61, wherein said at least one fluorohydrocarbon is a mixture of about 50 percent by weight difluoromethane and about 50 percent by weight pentafluoroethane.

63. The air quality management apparatus according to Claim 1, wherein said at least one air recirculation device includes a main blower for blowing said at least one post-exit airflow into and through said plurality of pathways included in said second interior volume.

64. The air quality management apparatus according to Claim 49, said fusing station including a fuser, wherein a fusing-station-related flow of air included in said air flowing through and included in said first interior volume flow proximate to said fusing station yet not through said fusing station, said fusing-station-related flow carrying fuser oil volatiles emitted by said fuser away from said fuser, wherein said fusing station is sited within said first interior volume at a location such that substantially none of said fuser oil volatiles reaches said modules via said leakage flow rate of air from said first interior volume to said second interior volume, said fuser oil volatiles being swept away by said fusing-station-related flow for inclusion in said expelled air.

65. A method for managing quality of air within an electrostatographic printer having a paper conditioning station associated therewith, said printer for making color images on receiver members, said air included in a first interior volume and in a second interior volume within said printer, said second interior volume including a plurality of electrostatographic image-forming modules, said first interior volume including paper handling equipment, a fusing station and a post-fusing cooler, said second interior volume differentiated from said first interior volume by at least one separating member, said method for managing air quality comprising the following steps:

flowing an airflow through said first interior volume, said airflow originating as a filtered intake flow of ambient air flowing from outside said printer into said first interior volume via at least one inlet port, said airflow including an outflow of air flowing at a predetermined rate of flow out of said first interior volume via at least one outlet port to a location outside said printer, said filtered intake flow compensating said outflow, said outflow carrying away through said exit port excess heat and aerial contaminations generated within said first interior volume;

causing air within said second interior volume to be recirculated through an air-conditioning device for providing a plurality of air-conditioned airflows, said plurality of air-conditioned airflows passing through a plurality of pathways within said second interior volume, a respective air-conditioned airflow included in said plurality of air-conditioned airflows having a respective temperature and a respective relative humidity, said respective temperature and said respective relative humidity measured for said respective air-conditioned airflow leaving said air-conditioning device, said respective air-conditioned airflow for delivery to a respective designated location within said second interior volume, said respective designated location inclusive of: said modules, any components of said modules, and any devices for operating said modules;

establishing, for said plurality of recirculating airflows within said second interior volume, a predetermined total rate of recirculation of air for recycling through said air-conditioning device;

providing at least one filtering unit for removing aerial contaminations from said air for recycling by said air-conditioning device; and

providing a determinate leakage path for a pre-specified amount of air leakage between said first interior volume and said second interior volume.

66. The method for managing air quality according to Claim 65, wherein said pre-specified amount is substantially zero.

67. The method for managing air quality according to Claim 65, wherein said predetermined rate of flow of air flowing out from said first interior volume is approximately equal to said specified total rate of recirculation of air circulating within said second volume.